

1. Selected Publications

JOURNAL

- a. J. G. Ciezki and R. W. Ashton, "Selection and Stability Issues Associated with a Navy Shipboard DC Zonal Electric Distribution System," *IEEE Trans. On Power Delivery*, Vol. 15, No. 2, pp 665-669, April 2000.
- b. J. G. Ciezki and R. W. Ashton, "A Technology Overview for a Proposed Navy Surface Combatant DC Zonal Electric Distribution System," *Naval Engineer's Journal*, Vol. 111, No. 3, pp 59-69, May 1999.
- c. R. W. Ashton and J. G. Ciezki, "The Formulation and Implementation of an Analog/Digital Control System for a 100kW DC-to-DC Buck Chopper," *IEEE Trans. On Circuits and Systems II*, Vol. 46, No. 7, pp 971-974, July 1999.
- d. R. W. Ashton and J. G. Ciezki, "A Novel Power Systems Program at the Naval Postgraduate School," *IEEE Trans. On Power Systems*, Vol. 12, No. 2, pp 515-520, May 1997.

CONFERENCE

- e. J. G. Ciezki, R. W. Ashton, and T. Fikse, "A Survey of AC Drive Propulsion Options," presented at the 3rd Naval Symposium on Electric Machines, Philadelphia, PA, Dec 4-7, 2000.
- f. J. G. Ciezki, R. W. Ashton, and C. Govier, "Algorithms for a Reduced-Scale Permanent-Magnet Synchronous Machine Propulsion Drive," presented at the 3rd Naval Symposium on Electric Machines, Philadelphia, PA, Dec 4-7, 2000.
- g. R. W. Ashton, J. G. Ciezki, and T. Lewis, "The Development of a Motor Controller Evaluation Platform," presented at the 3rd Naval Symposium on Electric Machines, Philadelphia, PA, Dec 4-7, 2000.
- h. J. G. Ciezki and R. W. Ashton, "The Design and Development of an Automation and Wireless Technology Laboratory at the Naval Postgraduate School," presented at the ASEE Conf. For Industry and Education Collab., San Diego, CA, Jan 29-Feb 2, 2001.
- i. J. G. Ciezki, J. L. Titus, S. Skinner, G. Bloomfield, and J. E. Smith, "Off-State Dose-Rate Responses of Power MOSFETs," poster paper at the Hardened Electronics and Radiation Technology (HEART) Conf., San Antonio, TX, March 7, 2001.
- j. J. L. Titus, S. Skinner, G. Bloomfield, J. Ciezki, and J. E. Smith, "Dose-Rate Responses of Reverse-Biased Power Schottky Diodes," poster paper at the HEART Conf., San Antonio, TX, March 7, 2001.
- k. J. L. Titus, S. Skinner, G. Bloomfield, J. Gillberg, D. Burton, C. F. Wheatley, and J. Ciezki, "Dose-Rate Responses of Commercial Rad-Hard Power MOSFETs Biased in an Off-State Condition," poster paper at the HEART Conf., San Antonio, TX, March 7, 2001.
- l. J. G. Ciezki and R. W. Ashton, "The Application of a Customized DSP Board for the Control of Power Electronic Converters in a DC Zonal Electric Distribution System," Asilomar Conference, Monterey, CA, Nov 1998.
- m. J. G. Ciezki and R. W. Ashton, "The Resolution of Algebraic Loops in the Simulation of Finite-Inertia Power Systems," *ISCAS '98*, Monterey, CA, Vol III, pp 342, June 1998.
- n. J. G. Ciezki and R. W. Ashton, "The Design of Stabilizing Controls for Shipboard DC-to-DC Buck Choppers Using Feedback Linearization Techniques," *PESC '98*, Fukuoka, Japan, Vol 1, pp 335, June 1998.
- o. R. W. Ashton and J. G. Ciezki, "The Design and Fabrication of a Reconfigurable Hardware Testbed for Interaction Analysis of Power Converters in a Reduced-Scale Navy DC Distribution System," *ISCAS '98*, Monterey, CA, Vol III, pp 379, June 1998.
- p. R. W. Ashton and J. G. Ciezki, "The Formulation and Implementation of an Analog/Digital Control System for a 100kW DC-to-DC Buck Chopper," *ISCAS '98*, Monterey, CA, Vol III, pp 489, June 1998.
- q. J. G. Ciezki and R. W. Ashton, "The Application of Feedback Linearization Techniques to the Stabilization of DC-to-DC Converters with Constant Power Loads," *ISCAS '98*, Monterey, CA, Vol III, pp 526, June 1998.
- r. R. W. Ashton, J. G. Ciezki, and M. G. Badorf, "The Synthesis and Hardware Validation of DC-to-DC Converter Feedback Controls," *PESC '98*, Fukuoka, Japan, Vol 1, pp 65, June 1998.

- s. R. W. Ashton and J. G. Ciezki, "The Analysis of Tradeoffs between Power Section Hardware and Feedback Gains for a DC Distribution System DC-to-DC Converter," ISCAS '98, Monterey, CA, Vol III, pp 387, June 1998.

TECHNICAL REPORTS

- t. J. Ciezki, R. Ashton, and T. Lewis, "Development of a Motor Controller Evaluation Platform," prepared for ONR by the Naval Surface Warfare Center, Carderock Division, West Bethesda, MD, NSWCCD-81-TR-2001/01, Feb. 2001.
- u. J. G. Ciezki and R. W. Ashton, "PEBB Feedback Control Law Library, Vol 1: Three-Phase Inverter Control Algorithms," prepared for NSWC Annapolis Det. by the Naval Postgraduate School, NPS-EC-99-002, Monterey, CA, Jan 1999.
- v. J. G. Ciezki and R. W. Ashton, "Analysis of a PWM Resonant Buck Chopper for Use as a Ship Service Converter Module," prepared for NSWC Annapolis Det, by the Naval Postgraduate School, NPS-EC-99-002, Monterey, CA, Feb 1999.
- w. J. G. Ciezki, G. E. Gareis, P. C. Krause, S. D. Sudhoff, and O. Wasynczuk, Final Report on "Computer Models of Shipboard Electrical Power Systems," Contract No. N61533-89-D-0037C for the Naval Surface Warfare Center, Carderock Division, Oct 26, 1993.
- x. J. G. Ciezki, P. C. Krause, S. D. Sudhoff, and O. Wasynczuk, Final Technical Report on "Investigation of Advanced Power Sources and Actuator Systems for Future Aerospace Vehicles," Contract No. NAS3-25962 for NASA Lewis Research Center, April 1993.
- y. J. G. Ciezki, G. E. Gareis, P. C. Krause, S. D. Sudhoff, and O. Wasynczuk, "Computer Studies Using Detailed and Reduced-Order Models of Generator/Rectifier and DC/DC Converters," Contract No. N61533-89-D-0037C for the Naval Surface Warfare Center, Carderock Division, Oct 16, 1992.
- z. M. Branson, J. Ciezki, S. Sudhoff, and O. Wasynczuk, Interim Technical Report on "Electric Drive Modeling and Performance Studies," Contract No. N61533-89-D-0037 for the David Taylor Research Center, June 1991.

2. Research Sponsors

NSWC Philadelphia, PA; NSWC Crane, IN; NSWC Annapolis, MD; NRAD San Diego, CA; Naval Postgraduate School Merit Award;

3. Selected Research Projects

- "Development of PM Synchronous Machine Control Algorithms," for NSWC, Philadelphia, PA, 2000.
- "Electric Drive Technology Assessment – Paralleling Multiple Converters," for NSWC Philadelphia, PA, 2000.
- "Power FET and Schottky Diode Dose Rate Test Development," for NSWC, Crane, IN, 1999-2000.
- "The Simulation and DSP Implementation of Closed-Loop ARCP Control Algorithms for Inverter and Boost Rectifier Applications," for NPS, Monterey, CA, 1998.
- "PEBB Network Simulation Testbed Validation and the Development of a PEBB Universal Control Library," for NSWC, Annapolis, MD, 1997.
- "Interactions and Dynamics of PEBB Network Controllers," for NSWC, Annapolis, MD, 1997.
- "Low-Power PEBB-Zero Hardware Adaptation and Digital Control Integration," for NSWC, Annapolis, MD, 1996.
- "The Development and Hardware Implementation of a PEBB-Network Simulation Testbed," for NSWC, Annapolis, MD, 1996.
- "Evaluation of Environmental Requirements," for NRAD, San Diego, CA, 1996.
- "The Reduced-Order Modeling, Control, and Simulation of Electromechanical Drives/Power Electronic Systems," for NPS, Monterey, CA, 1994-1995.